we say merely that the energy could be better spent by better methods. It is curious that epistemologists who think that nothing is real but the thought of the individual at the moment, should feel impelled to "compensate" by holding that what used to be thought dreams, are really veracious of objective things. Is it a useful or a pernicious service to get fetishism, animism, etc., restated in current terms of science? When, if the nerve is severed that goes to my arm or leg, the two severed ends can never be put so near together that a volition to bend the limb can jump across the infinitesimal interval, is it likely that holophrastic impressions leap vast spaces? Again, is there no isolated conductivity among different fibres, or must we go back to the sixteenth century physiological sympathies? Science to-day, to quote a street song, has a great big swallow, but it can't quite swallow some things and continue to be science, and Clifford well said there were some theories a man could not verify without ceasing to be a man. The glory of the new psychology is not so much, as Mr. Myers thinks, that it is more exact, though that is of course true, but that its conclusions are more certain. So far from being less fit to open new fields and make fresh and great additions to the sum of human knowledge, than to make what was before known more precise, its chief claim is, the writer thinks, that it has first erected the ideal of collecting all the typical psychic experiences of man, his feelings, acts, ideals, normal and morbid, child and adult, criminal and law-abiding, and adding those of animals, and using all these as data, not to confirm any old longings or new theories, but for the most objective induction and painstaking study, fully persuaded, meanwhile, that the conclusions, whatever they may be and however long delayed, will be not only larger than all that can be sugared off out of spiritism, but that they will give us a vastly loftier and more adequate notion of all that can be called psychic. G. S. H.

V.—MISCELLANEOUS.

Mental Development in the Child and the Race. PROF. JAMES MARK BALDWIN. Macmillan & Co., 1895.

Professor Baldwin has treated in this book a subject that is new and full of absorbing interest. As the title would indicate, he has tried to do for the development of the child and the race what Darwin undertook for the animal series in his " Origin of Species." He simply applies the principles of evolution to mental development, and shows that what holds good for organic life is true also for mental life. It is in no sense a book for the general public; in fact the style of the author is such that he will probably never become popular with the masses. The book has already been reviewed in the public press several times, and the character of it is pretty well known. The task that remains for the present reviewer is to call attention to the points where the author has succeeded and to point out some respects wherein he has failed. He has so frequently appeared in several prominent journals, discussing subjects relating to children, that when this book was announced, it was looked for with considerable interest, as it was believed that he would carry out in more detail and with greater thoroughness the work inaugurated by Darwin, Preyer, Perez and others in the study of their own children. In this respect the public will certainly be disappointed, for after the first three or four chapters very few observations and experiments made upon his own or other children are given, and the book is devoted almost entirely to theorizing

and speculation. It is true that in many of the fields traversed by the author, no facts are yet established. But, then, why not have waited for them, or given time to gathering them, instead of elaborating theory in their absence?

The book opens with a chapter entitled Infant Psychology, in which there are a number of acute observations about taking up the subject, and the author shows a good understanding of what is to be done and the limitation of it. He next discusses the new method of child study, which is that of dynamogenesis. This is well presented, and the success he attains in using it in the study of color perception merits hearty approval. His criticisms on Preyer are thorough and just. He fails, however, to tell us the kind of colors he used, so that it is impossible for anyone to verify his results. The treatment of right-handedness is full of suggestion, and the author shows himself a master of the method he advocates.

Right-handedness is reduced to a spontaneous variation in the equality of the two hemispheres, and it is shown "that the influences of infancy have little effect upon it * * *"—a conclusion which must seem in the end unsatisfactory. The chapter upon Infant's Movements, in which he treats of tracery, imitation and the reflex movements in walking, is one of the best in the book. Certain details in his explanation might have received more careful consideration, but, on the whole, the chapter is most suggestive and full of interest, and will doubtless lead others to undertake further work in this direction. The use he makes of the child's movements as indicating his mental development, and the great stress he lays upon the motor side, will be the permanent value of the book.

When we come to the chapters upon the Theory of Development and Motor Attitudes, the author becomes entirely speculative, and the book loses the freshness of the first chapters. He takes up the various theories of development and considers them with care and acuteness, corrects and amends them, with the view to rendering them more plausible, broad and adequate. The suggestions he makes and the thoroughness with which he applies the principles of evolution, laying great stress upon "selective reaction," excess in motor discharge, pleasure and pain, heightened nervous discharge, the need for repetitions of stimuli, habit, accommodation, etc., when considered from a purely speculative point of view, will prove most valuable to future workers in the same line. The outcome of these chapters is to show that the principles of organic development are the same as those of mental development. The objections urged against the theories of Spencer and Bain will certainly find acceptance as being valid from a speculative point of view, and, while they are not supported by sufficient facts, there is something commendable in the attempt to find an hypothesis that will be applicable to both organic and mental life. The result will be to show that organic and mental life are one and the same and follow the same law of development. This is in the right direction. But the reader who wishes to find practical suggestions for beginning the work of child study or the study of race development, and hints as to the kind of thing that needs investigation, must feel not a little disappointed, and exclaim after finishing them, "Is this all there is to offer?" What is to be gained, after all, by this playing with theories, and by rendering them consistent and reasonable? The criticism against a theory that it seems unreasonable is not an absolutely decisive and convincing objection, and the contrary is also true that a theory that is reasonable is not certainly right. The author makes the very pertinent remark about the conflicting

opinions held concerning the inheritance of acquired habits when he says that none of them are disproved by fact. The same is true of his own theories; they are not only not proved, but they are not supported by a sufficient citation of facts and investigations. This theorizing is not a fault into which Prof. Baldwin has fallen by accident, but is a conscious and professed purpose with him. He says upon page 37: "Only the psychologist can 'observe' the child, and he must be so saturated with his information and his theories that the conduct of the child becomes instinct with meaning for his theories of mind and body."

Further: "That most vicious and Philistine attempt, in some quarters, to put science in the straight-jacket [the proof-reader should have made this "strait-jacket"] of barren observation, to draw the life-blood of all science—speculative advance into the secrets of things,—this ultra-positivistic cry has come here as everywhere else and put a ban upon theory. On the contrary, give us theories, theories, always theories! Let every man who has a theory pronounce his theory! This is just the difference between the average mother and the good psychologist—she has no theories, he has; he has no interests, she has."

Although I may be called a vicious Philistine, I must unhesitatingly pronounce this poor nonsense. I deny that the aim is to reduce science to barren observation, and I would make it something more than "speculative advance into the secrets of things." Theories are at bottom only working hypotheses, and beyond this they are of little service. This has been Prof. Baldwin's great mistake, and it has rendered his book in some parts a barren waste of speculation. It would have been well, for example, to have given us some facts that would have made it "perfectly certain that two in every three children are irretrievably damaged or hindered in their mental and moral development in school * * *"

In view of all this, it would be well to note the fact that the author tells us "there are only two ways of studying a child, as of studying any other object—observation and experiment." Does he himself not add and make use of a third, namely, speculation, when he says it is "theories, theories, always theories," that we want? All his views are borne out by trends in "current thought," "recent thought," "current theory," "current doctrine," "psychological theory," "biological theory," etc. These words are reiterated until the reader is fatigued. He says that parents and nurses may give results that are of some value, but there is the uncertainty whether they have not been colored by affection, pride, jealousy, etc. Scientific men are not free from affection, pride and jealousy with respect to their children or their theories; they are human beings. Although theories must, to a certain extent, precede experiments, they may vitiate them and lead the experimenter to overlook facts that come to view during the experiment. But since Prof. Baldwin has recently published an extended syllabus calling for general observations upon the social development of children, while he affects to distrust the "anecdotes of fond mothers," perhaps his objections are not to be taken too seriously.

In the chapter upon Imitation we are treated to more speculation. The author complains of the neglect the subject has suffered in "psychological theory," scarcely intimating that it needs "investigation." Imitation is defined as a phenomenon of consciousness, which "is probably never absent from living organisms * * *" It "is an ordinary sensori-motor reaction which finds its differentia in the single fact that it imitates, that is, its peculiarity is found in the locus of its muscular discharge." The first assumption is en-

tirely unfounded except upon the opinions of certain authors, and the second is a bit of wordy remark which adds little to the reader's information. It would have been much better to have cited cases of imitation such as the author must have observed in his own children, and come in the end to his conclusions from an analysis of these. That which the child imitates, "the copy," he says, is clearly defined in the child's mind before he imitates it and he proceeds by reproducing it; the opposite supposition, that by imitation a child clears up his idea of what is presented, can find much support, but he cites nothing to support his view. The whole matter of imitation is left practically where he finds it so far as permanent and established results are concerned, and, although he announces the crucial question involved in imitation, as it seems to me, when he says that it is concerned with a nature and significance of the copy which is imitated, he does not solve the question; he does not show how the copy brings about a reproduction of itself, whether it has the power to coördinate the muscles so as to bring about a reproduction or whether it issues in random movements, which are slowly corrected by comparing the movement with the original stimulus. These questions should somewhere find an answer in the light of observation and experiment and not of speculation and assertion. He approaches this matter on pages 378 and 379, and finally leaves it in a very unsatisfactory way by saying that the child does bring about a change in his reactions from senseless repetition to intelligent conformity to the copy which he imitates, "but he does it, and the least that this can mean is that there is in some way a modification of the impelling influence of his old associations." He shows how memory, association of ideas, assimilation and recognition, conception and thought, and emotion and sentiment may arise through imitation. In this he shows the same acuteness which has characterized his thinking in all other parts, but the confirmation is lacking as before. His suggestions at the end of his treatment of this subject, on how to observe children, refer almost entirely to the child's social surroundings. He notes an especially important point in the influence of companionship.

In the last few chapters the author discusses the rise of volition and voluntary attention, closing with a résumé of the theory of development. We have looked in vain for a thorough treatment of the origin of consciousness, either in the individual, the race or the animal series; it is assumed thoughout the book, and authorities are cited who hold that it is present in all forms of animal life. There is a vague promise in the preface that the matter will receive fuller treatment in the proposed volume of "Interpretations."

Many will find Prof. Baldwin's book stimulating; it clears up one's conceptions of many things and lays a stress upon others that will bring them into greater prominence and make them the subjects of investigation, but the author is not free from the regrettable and too common tendency to emphasize the indebtedness of the subject to his own contributions, and to contend over small points of priority. He picks a quarrel with a certain "well informed" biologist in the note upon page 247 about a small point: he charges Bain with using some of his views, (in Bain's words,) in a note upon page 196 and then quotes several dates,—also in a note upon page 317, to show that he was entitled to the authorship of a view which Ward had expressed, and in another case tells us that his ideas had been thought out several months before they appeared, and thus he was able to antedate his rival.

T. L. BOLTON.